BEM MAINTENANCE

TECHNICAL MEMORANDUM

Date: May 19, 2022

To: Placer County Environmental Health
3091 County Center Drive; Suite 180
Auburn, CA 95603

Subject: Project 8 (PLN21-00198) – Anticipated On-Site Sewage Flows

As shown in REV-B of the septic feasibility report (appended hereto as Attachment C), dated March 21st, 2022, and generated by Lindbloom Septic Design, Inc., two areas, or zones, within the project boundary have been deemed suitable for on-site septic disposal. These zones, identified as "West" and "East", have the capability of disposing of 4,134 gallons per day (gal/day) and 4,421 gal/day of effluent flow respectively. The "West" zone is located below the Antelope Canal and at a lower elevation than that of the wine cave floor and the lower warehouse/processing building. The "East" zone is located downslope of the top of the property and at an elevation beneath that of the tasting room building and upper processing area.

This information presents two options for the eventual design of the Project 8 septic system. The first option would be a design consisting of a system resulting in ≤ 2,500 gal/day of sewage flow with a single primary leach field in the "West" zone. The "East" zone would be designated for repair and would remain undisturbed until such time the primary system became compromised, and the repair area needed to be utilized in its place.

The second option would be a design consisting of two smaller systems. In this case there would be primary and repair leach areas designated in both the "West" and "East" zones. Each system would be designed to maximize effluent flow to the primary area while maintaining adequate area for repair and adequate separation between the primary and repair areas. The areas designated for repair in this case would also remain undisturbed until such time the primary system became compromised, and the repair areas became necessary for use.

Anticipated sewage flows are shown in Attachment A.

As shown in Attachment A, the total anticipated sewage flow for Project 8 is 3,525 gal/day. On this basis, the second of the aforementioned design options is proposed for meeting the Project 8 sewage flow demand. This will result in the design and installation of two on-site septic systems in the zones designated within the septic feasibility report. Each system will be designed to accommodate approximately 1,800-2,000 gal/day of sewage flow. This represents less than half of their respective maximum disposal capacities thus allowing for designated repair areas in each zone with additional margin.

Additional measures can also be taken during the detailed design phase of the on-site system(s) to further ensure adequate sewage disposal capacity is provided such as pre-treatment of effluent flows, temporary on-site storage, incorporation of a grease interceptor placed in-line with sewage generated by food preparation, and installation of automatically controlled and ultra-low flow plumbing fixtures.

Ultimately, the detailed design of the on-site septic system(s) to be installed for Project 8 will be carried out by qualified individuals during the construction document phase of the project. The final proposed design will, of course, then be evaluated by County staff as part of the permit review process. We and our consultants have a very high level of confidence moving forward that the anticipated effluent sewage flows generated by the project will be suitably accommodated by the system(s) that will result from that process.

Sincerely,

Evan Mackenzie
Engineering Manager
Building Engineering & Maintenance, Inc.

ATTACHMENT A: Anticipated Sewage Flows

Anticipated On-Site Sewage Flows

Source of Flow	Design Flow[1] Gallons per Day (gpd)	Qty	Subtotal
Accessory Restaurant	50 (per seat)	32	1600
Wine Tasting	5 (per person)	50	250
Event Hosting	5 (per person)[2]	200[3]	1000
Employees	15 (per person)	15	225
Caretaker's Residence	150 (per bedroom)	3	450
Total Anticipated Sewage Flow (Gallons per Day):			**3525**

1. Design flows per Placer County LAMP On-Site Sewage Manual and Placer County Code Section 17.56.330 (Wineries & Farm Breweries)
2. 5 gpd/person used per direction from Laura Rath in email dated 5/10/2022 (see Attachment B)
3. Maximum Special Event attendees used as worst-case scenario as Special Events and Ag-Promo events will not occur on the same day

ATTACHMENT B: Email Correspondence (L. Rath)

Evan Mackenzie

From: Laura Rath <LRath@placer.ca.gov>
Sent: Tuesday, May 10, 2022 3:31 PM
To: Evan Mackenzie
Subject: RE: Penryn Winery CUP (PLN21-00198), Comments on 3rd Submittal

Hi Evan,

Thank you for taking the time to discuss the proposed sewage flows for the Penryn 8 Winery. Outlined below are the gallon per day (gpd) requirements for each of your proposed uses:

50 gpd/ restaurant seat
5 gpd/ wine taster
5 gpd/ event attendee (ag event and special event)
15 gpd/ employee
150 gpd/ bedroom for residential dwelling

If you can provide flow calculations for each of the uses for your project this would satisfy Item #2 on our memo form April 12, 2022. Feel free to email the calculations to me and I will include them in our file.

I will review the slope stability report and finalize our review of the sewage disposal areas.

Let me know if you have any questions.

Thanks,
Laura

Laura Rath, Senior REHS
Placer County | Health & Human Services | Environmental Health
Direct Line (530) 745-2355 | Main Line (530) 745-2300 | FAX (530) 745-2370
Lrath@placer.ca.gov| http://www.placer.ca.gov/departments/environmental-health
3091 County Center Drive, Suite 180 Auburn, CA 95603

From: Evan Mackenzie <evanm@bem.com>
Sent: Tuesday, May 10, 2022 2:28 PM
To: Laura Rath <LRath@placer.ca.gov>
Subject: [EXTERNAL] FW: Penryn Winery CUP (PLN21-00198), Comments on 3rd Submittal

From: Shirlee Herrington <SHerring@placer.ca.gov>
Sent: Friday, April 22, 2022 1:04 PM
To: Evan Mackenzie <evanm@bem.com>

ATTACHMENT C: Septic Feasibility Report

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LINDBLOOM

Septic Design, Inc.
122 East Street
Auburn, CA 95603

Date: March 21, 2022

Assessor's Parcel Number: 031-220-061, 032-124-080

Owner/Applicant: Building Engineering & Maintenance, Inc.

Property Location: Callison Road, Penryn

Proposed Use: Winery

Size of Property: 42± Acres

Water Supply: Public Well

Recommendations:

My previous feasibility report recommended limiting the proposed sewage flows for this project to 2500 gallons or less per day to avoid the additional requirements for a "large system". To this end, we identified an area in the northwest corner of the property that would serve as the Primary Area and we identified an area in the northeast portion of the property that would serve as the 100% Repair Area (see attached plot plans).

The property owners would now like to explore the possibility of increasing the proposed sewage flows above this threshold. So this report will address the maximum sewage flows possible, based on the soil mantle testing and percolation testing performed to date.

The **Primary Area** is suitable for a pressure distribution system. The leachtrenches will be 18" deep x 36" wide.

Calculations for West Area (Primary Area):

Average percolation rate (P-1,2,3,4):	52	mpi
Application rate for 52 mpi: $(5 \div \sqrt{52})$	0.69	gal/sq ft/day
Total lineal footage of leachtrench available in this area:	2350±	lin ft

Total square footage of leachtrench available in this area: (2350 lin ft x 3 sq ft/lin ft)	7050	sq ft
Maximum gallons per day this area can dispose of: (7050 sq ft x 0.69 gal/sq ft/day)	4864	gal/day
Recommended gallons per day this area can dispose of*: [4864 gal/day x 0.85 (correction factor)]	4134	gal/day

*Built into the calculation for pressure distribution leachtrenches in Placer County is a 30% reduction in leachtrench required as compared to standard leachtrenches. In my opinion, such a significant reduction is not advisable. I believe a 15% reduction is more prudent, which is reflected in the recommended sewages flows above.

The eastern boundary of this leachfield area will be the setback to the cut bank above the proposed parking lot. On the attached plot plan I have shown the setback from the existing cut bank. This is subject to change. If the cut bank is extended farther into the hillside the setback will increase, reducing the amount of leachfield available. Conversely, if a retaining wall is constructed at the base of the existing cut bank and the cut slope above the retaining wall is backfilled and restored to its natural slope, the setback will be reduced and a little more leachfield will be available. The required setback from a cut bank to an upslope leachfield is four times the height of the cut.

The **100% Repair Area** is suitable for a deep trench pressure distribution system. The leachtrenches will be 31" deep x 24" wide. The downslope portion of this area (in the vicinity of soil mantles D & E) will require a pretreatment system.

This area requires a "slope stability study" since the slope in this area exceeds 30%. This study will be performed by others in the near future.

A parking area is proposed just upslope from this proposed 100% Repair Area. The Repair Area must be protected from all grading activities. Care must be taken when installing the parking area to avoid placing fill over the Repair Area.

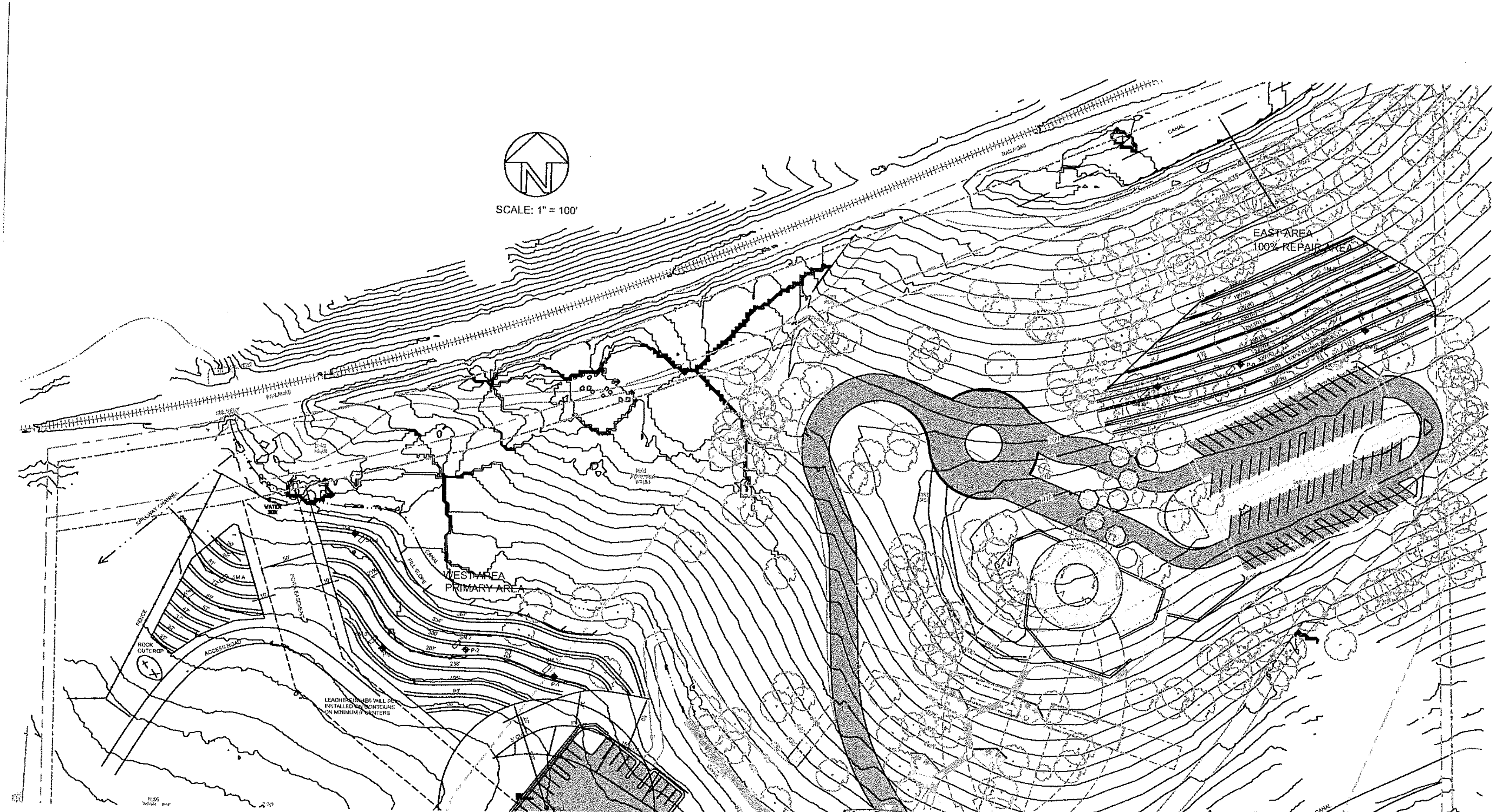
Calculations for East Area (100% Repair Area)

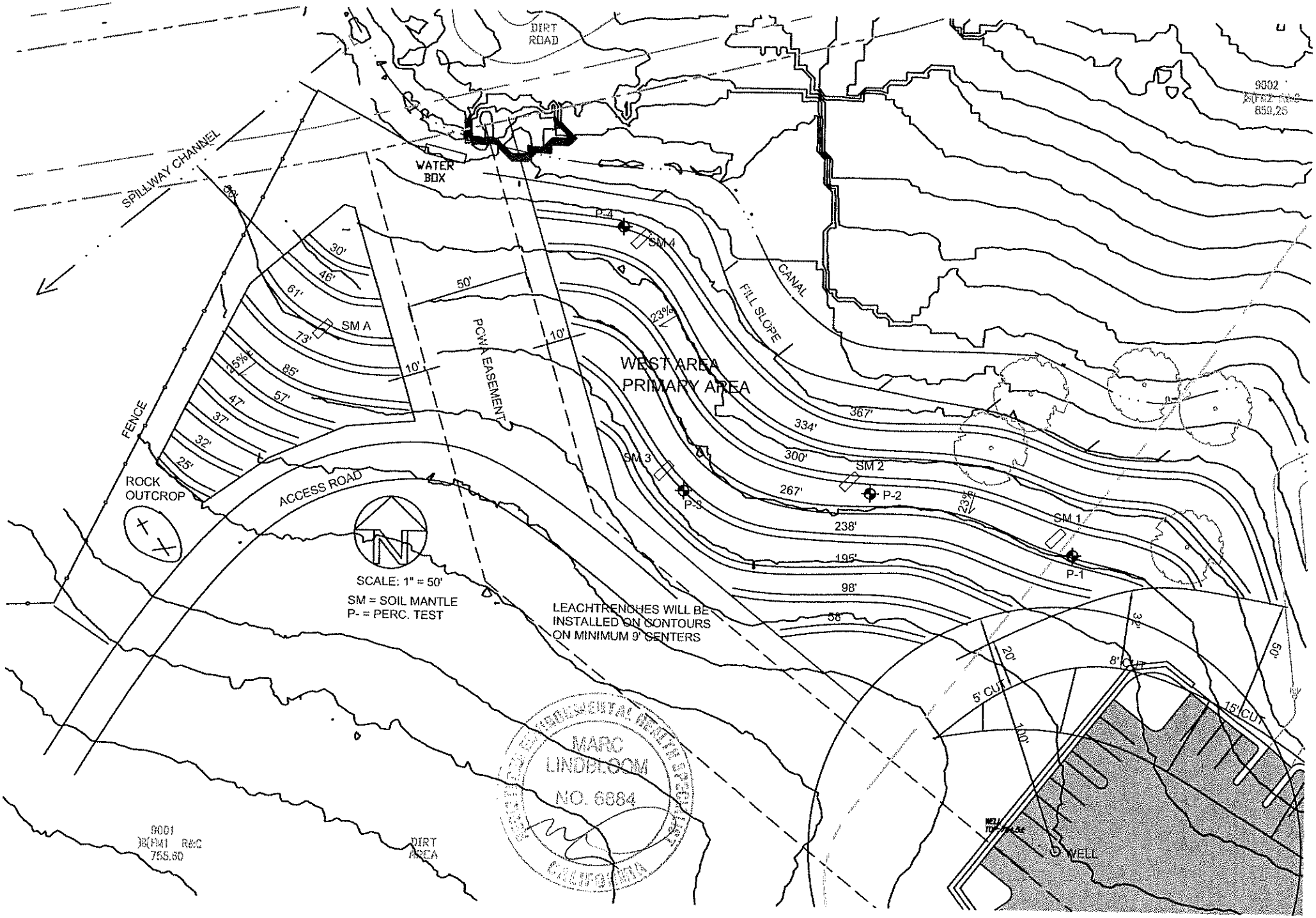
Average percolation rate (P-A,B,C):	37	mpi
Application rate for 37 mpi: $(5 \div \sqrt{37})$	0.82	gal/sq ft/day
Total lineal footage of leachtrench available in this area:	2696	lin ft

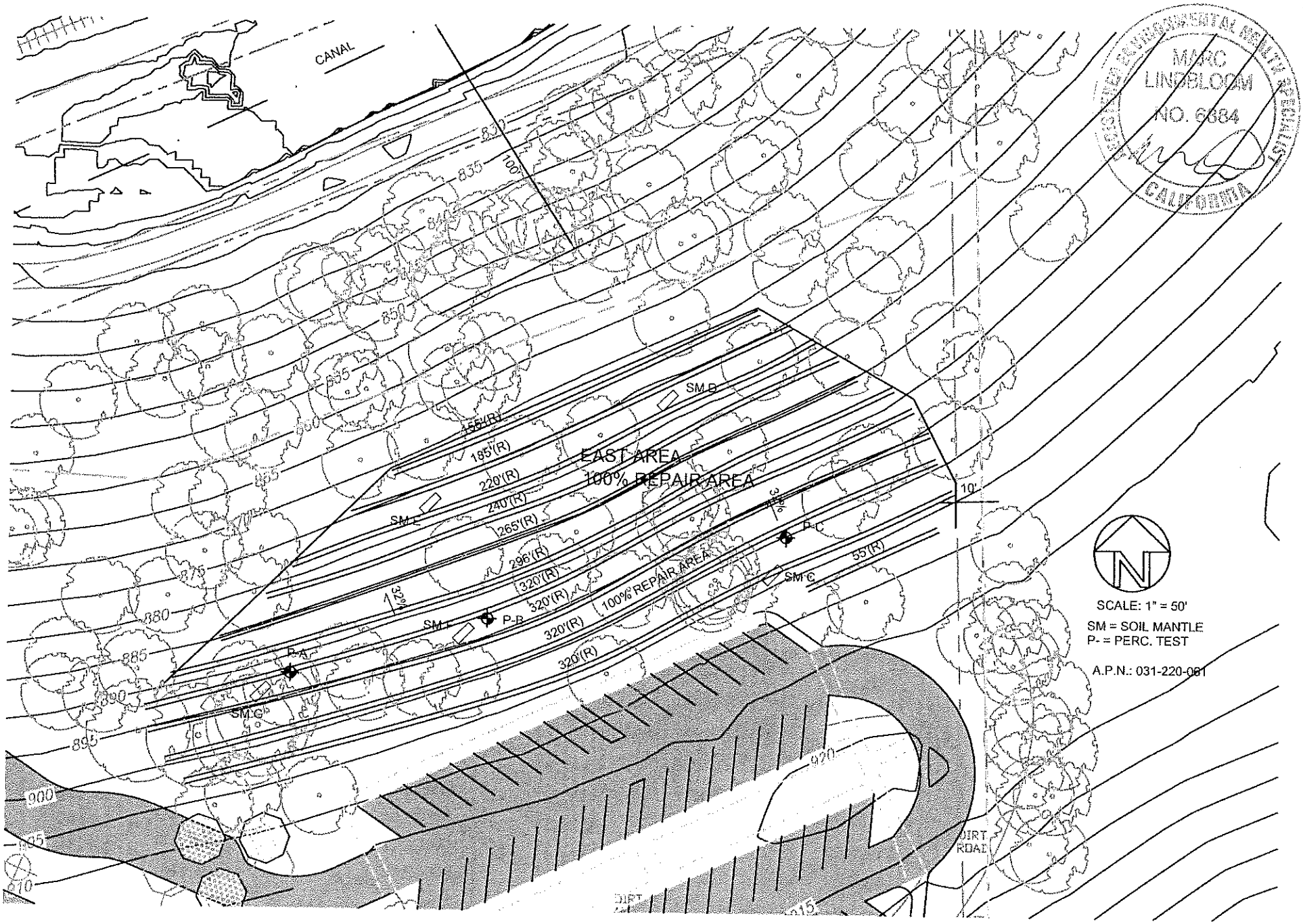
Total square footage of leachtrench available in this area: (2696 lin ft x 2 sq ft/lin ft)	5392	sq ft
Gallons per day this area can dispose of: (5392 sq ft x 0.82 gal/sq ft/day)	4421	gal/day

This report has presumed that all sewage flows would be disposed of in a single leachfield, the Primary Area. Another option would be to divide both the West Area and the East Area into both a Primary Area and a 100% Repair Area. In this case the proposed sewage flows could stay below the 2500 gpd threshold for each area. Essentially, the sewage flows from this project would be divided into two smaller septic systems. However, to accomplish this there would need to be a reasonable way of dividing the sewage flows into two, roughly equal flows. The feasibility of this approach can be assessed by the septic designer when the various sources of sewage flow are finalized for this project.

Marc Lindbloom, R.E.H.S. #6884
(530) 888-7464


N
SCALE: 1" = 100'
EAST AREA
100% REPAIR AREA
WEST AREA
PRIMARY AREA
CANAL
FILL SLOPE
WATER BOX
SPILLWAY CHANNEL
FENCE
ROCK OUTCROP
ACCESS ROAD
LEACHTRENCHES WILL BE
INSTALLED ON CONTOURS
ON MINIMUM 8' CENTERS


DIRT ROAD
SPILLWAY CHANNEL
WATER BOX
P-4
SM 4
CANAL
FILL SLOPE
23%
30'
46'
61'
73'
85'
57'
47'
37'
32'
25'
SM A
50'
10'
PCWA EASEMENT
10'
WEST AREA
PRIMARY AREA
367'
334'
300'
267'
238'
195'
98'
58'
SM 3
SM 2
P-3
P-2
SM 1
P-1
FENCE
ROCK OUTCROP
ACCESS ROAD
SCALE: 1" = 50'
SM = SOIL MANTLE
P- = PERC. TEST
LEACHTRENCHES WILL BE INSTALLED ON CONTOURS ON MINIMUM 9' CENTERS
20'
5' CUT
8' CUT
15' CUT
100'
WELL
DIRT AREA
MARC LINDBLOOM
NO. 6684
ENVIRONMENTAL HEALTH SPECIALIST
CALIFORNIA


CANAL
EAST AREA
100% REPAIR AREA
SM B
SM E
SM F
SM G
SM C
P-A
P-B
P-C
155'(R)
185'(R)
220'(R)
240'(R)
265'(R)
296'(R)
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100% REPAIR AREA
3%
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10'
DIRT ROAD
DIRT
SCALE: 1" = 50'
SM = SOIL MANTLE
P- = PERC. TEST
A.P.N.: 031-220-081
MARC LINDBLOOM
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